

Claims:

1        1. An apparatus for accessing data from a database through a security mechanism,

2        the apparatus comprising:

3            a first application capable of being executed on a client computer;

4            one or more proxy objects being generated in response to commands from the first

5        application, the proxy objects requesting data from a database;

6            one or more drivers capable of being stored on a server computer; and

7            a second application capable of being executed on a server computer separated from the

8        first application by a security mechanism, the second application receiving the proxy objects

9        from the first application, generating a database query based on the proxy objects and the drivers

10        and returning the database query results to the first application.

1        2. The apparatus of Claim 1, wherein the first and second applications are Java

2        language applications.

3        3. The apparatus of Claim 2, wherein the first application comprises an applet.

4        4. The apparatus of Claim 3, wherein the second application comprises a servlet.

5        5. The apparatus of Claim 4 further comprising an application server that executes

6        the servlet.

3        6. The apparatus of Claim 5 further comprising a database server that contains the

4        data being accessed by the application server wherein the database server and the application

5        server are located in different geographic areas.

1        7. The apparatus of Claim 6 further comprising a communications network that

2        permits the client, the application server and the database server to communicate data with each

3        other and wherein the data communications between the client and application server occur using

4        the hypertext transfer protocol (HTTP) that tunnels through the security mechanism.

1           8.       The apparatus of Claim 7, wherein the data communications between the client  
2 and the application server occur over port 80.

1           9.       The apparatus of Claim 8, wherein the one or more database drivers further  
2 comprise one or more JDBC drivers.

1           10.      The apparatus of Claim 6, wherein the application server further comprises means  
2 for batching one or more database requests from the client computer so that the batch of database  
3 requests are sent periodically to the database server.

1           11.      A method for accessing data located behind a security mechanism, comprising:

2                   executing a first application on a client computer that generates one or more proxy  
3 objects;

4                   communicating the proxy objects to a second application on an application server;

5                   generating one or more database requests at the application server based on the proxy  
6 objects, the database requests being generated using database drivers;

7                   forwarding the database requests to a database;

8                   returning the data from the database to the application server; and

9                   providing the data back to the client computer using the proxy objects.

1           12.      The method of Claim 11, wherein the first and second set of applications are Java  
2 language applications.

1           13.      The method of Claim 12, wherein executing the first application further comprises  
2 executing a Java applet.

1           14.    The method of Claim 13 further comprising executing the second set of  
2    applications on the application server that process the proxy objects from the client computer,  
3    wherein the second set of applications comprises servlets.

1           15.    The method of Claim 14 further comprising accessing the database using a  
2    database server that contains the data being accessed by the application server wherein the  
3    database server and the application server are located in different geographic areas.

1           16.    The method of Claim 15 , wherein the communications between the client  
2    computer and the application server uses the hypertext transfer protocol (HTTP) that tunnels  
3    through the security mechanism.

1           17.    The method of Claim 16, wherein the communications between the client and the  
2    application server occur over port 80.

1           18.    The method of Claim 17, wherein the one or more database drivers further  
2    comprise one or more JDBC drivers.

1           19.    The method of Claim 15 further comprises batching one or more database  
2    requests from the client computer at the application server so that the batch of database requests  
3    are sent periodically to the database server.

1           20.    A system for accessing data located behind a security mechanism, comprising:  
2            a client having means for generating one or more database proxy objects in response to a  
3    database request;  
4            an application server comprising means for processing the received database proxy  
5    objects and means for using one or more drivers to generate one or more database requests based  
6    on the database proxy objects; and

7       wherein the client interacts with the database through the application server so that a  
8    security mechanism protecting the client does not interrupt the accessing of the data in the  
9    database.

1       21.    The system of Claim 20, wherein the generating means and the processing means  
2    are Java language applications.

1       22.    The system of Claim 21, wherein the generating means further comprises an  
2    applet.

1       23.    The system of Claim 22, wherein the processing means further comprises a set of  
2    servlets.

24       24.    The system of Claim 23 further comprising means for storing the database that  
contains the data being accessed by the application server wherein the database server and the  
application server are located in different geographic areas.

1       25.    The system of Claim 24 further comprising means for communicating between  
the client, the application server and the database server to communicate data with each other and  
wherein the data communications between the client and application server occur using the  
hypertext transfer protocol (HTTP) that tunnels through the security mechanism.

1       26.    The system of Claim 25, wherein the data communications between the client and  
2    the application server occur over port 80.

1       27.    The system of Claim 26, wherein the one or more database drivers further  
2    comprise one or more JDBC drivers.

1       28.    The system of Claim 24, wherein the application server further comprises means  
2    for batching one or more database requests from the client computer so that the batch of database  
3    requests are sent periodically to the database server.

1        29. A system for accessing data by a Java applet wherein the data is located behind a  
2 security mechanism, the system comprising:

3            a client that executes a Java applet having a series of instructions that includes accessing  
4 data from a database, the client further comprising one or more database proxy objects that are  
5 generated by the Java applet in response to a database request;

6            an application server that executes a servlet that interact with the database proxy objects  
7 and generates one or more objects corresponding to the database proxy objects, the application  
8 server further comprising one or more JDBC drivers that are integrated into the objects generated  
9 by the servlets wherein the JDBC drivers interface with a database so that the application server  
10 requests data from the database; and

11            wherein the applet interacts with the database through the application server so that a  
12 security mechanism protecting the client does not interrupt the accessing of the data in the  
13 database.

14        30. A system for accessing data located behind a security mechanism, comprising:

15            a client that executes a first application having a series of instructions that includes  
16 accessing data from a database, the client further comprising one or more database proxy objects;

17            an application server that executes one or more second applications that interact with the  
18 database proxy objects and have one or more corresponding objects, the application server  
19 further comprising one or more drivers that interface with a database so that the application  
20 server requests data from the database; and

21            wherein the client interacts with the database through the application server so that a  
22 security mechanism protecting the client does not interrupt the accessing of the data in the  
23 database.

1       31.    The system of Claim 30, wherein the first and second set of applications are Java  
2 language applications.

1       32.    The system of Claim 31, wherein the first application comprises an applet.

1       33.    The system of Claim 31, wherein the second set of applications comprises a set of  
2 servlets.

1       34.    The system of Claim 33 further comprising a database server that contains the  
2 data being accessed by the application server wherein the database server and the application  
3 server are located in different geographic areas.

1       35.    The system of Claim 34 further comprising a communications network that  
permits the client, the application server and the database server to communicate data with each  
other and wherein the data communications between the client and application server occur using  
the hypertext transfer protocol (HTTP) that tunnels through the security mechanism.

1       36.    The system of Claim 35, wherein the data communications between the client and  
the application server occur over port 80.

1       37.    The system of Claim 36, wherein the one or more database drivers further  
2 comprise one or more JDBC drivers.

1       38.    The system of Claim 34, wherein the application server further comprises means  
2 for batching one or more database requests from the client computer so that the batch of database  
3 requests are sent periodically to the database server.